



OFFICE OF THE CITY AUDITOR COLORADO SPRINGS, COLORADO

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18-29 2C Warranty and Inspection Process

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Purpose

The purpose of this audit was to assess the adequacy of warranty and inspection processes related to Ballot Issue 2C spending for projects completed in 2016.

Highlights

We conclude the warranty and inspection process for 2C related projects was adequate and served the intended purpose of intercepting quality problems during construction and while under contractor warranty. Positive results included only one instance of project rework during the warranty period for the 2C program to date. One opportunity for improvement was identified.

To reach our conclusion, we obtained an understanding of the quality control processes and standards for both asphalt overlay and pre-overlay concrete operations. We obtained quality control documentation and project files. Additionally, we visually inspected 20 project segments and pedestrian ramps against quality criteria.

Out of the 94 2C asphalt overlay and 803 2C pedestrian ramps completed in 2016, only one asphalt segment was found to require rework during the final warranty inspection. One street segment was identified during 2016 construction for monitoring of premature degradation and roadway failure. Adherence to quality control processes ensured contractor led warranty repairs occurred in 2018 at no added cost to the City of Colorado Springs.

Contracts for 2C asphalt overlay and pre-overlay concrete work include provisions for a two year warranty on installed work. The first 2C work was performed in 2016, therefore, the warranty period will expire in 2018. Pre-overlay concrete work is designed to address problem concrete that adjoins the roadway or requires upgrade to standards due to paving operations. We reviewed pedestrian ramps as a representation of the total pre-overlay concrete program.

During the course of the audit, we reviewed the Pavement Quality Index (PQI) as a measurement of asphalt condition. During this step, we verified the accuracy and reliability of the Public Works asset management database and noted one opportunity for improvement.

We would like to thank the members of the Public Works Department for their assistance during this audit.

Please see page two of this report for observation details.

Opportunity for Improvement:

Take steps to improve and maintain data in the Public Works asset management database.

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Opportunity 1

The City's streets are divided into over 7,000 segments and each of these is tracked in the Public Works asset management database. A rating of 1 to 10 is given for the Pavement Quality Index (PQI) of each segment. During 2016 and 2017 automated inspections were conducted of all City streets. During our review, we found inconsistencies with some records in the database.

A small percentage of the records in the Public Works asset management system were still reporting PQI scores for retired road segments. There was also incomplete supporting documentation for some of the records.

The PQI data is one of the tools Public Works uses to make decisions and set priorities for maintenance and repair work. Improving the quality of the data in the asset management system would facilitate better management decisions and future trend analysis.

Management Response:

We agree and are working to eliminate the issues identified in the database.

Recommendation

Public Works Operations and Maintenance Division should clean up identified issues in the asset management system to improve accuracy and consistency.

Background on 2C

Ballot measure 2C was approved by voters in 2015 and became effective on January 1, 2016. This temporary sales tax increase provides approximately \$50 million each year "only for funding the cost to repair roads and streets throughout all areas of the City, including cost of road reconstruction where severe deterioration does not allow repair. None of the additional sales and use tax revenue will be used to hire additional City employees or purchase additional equipment for City road projects. Work will be contracted out to the private sector."

This audit was conducted in conformance with the International Standards for the Professional Practice of Internal Auditing, a part of the Professional Practices Framework promulgated by the Institute of Internal Auditors.